

What is NUCLEONICA?

NUCLEONICA is a nuclear science web portal from the European Commission's Joint Research Centre.

Who is it for?

NUCLEONICA is aimed at professionals, academics and students in the nuclear sciences, in particular health physics and radiation protection, nuclear and radiochemistry, and astrophysics.

What can you do with NUCLEONICA?

Improve the quality of your work

Avoid the tedious task of searching for nuclear data. NUCLEONICA uses the most recently evaluated nuclear data from international datafiles.

Concentrate on the science rather than the programming!

NUCLEONICA provides you with user-friendly, reliable, and fast modules (for decay, dosimetry & shielding, range and stopping power, transport and packaging, reactor irradiation calculations, etc.)

Keep informed on nuclear developments

NUCLEONICA web crawlers scan hundreds of websites on an hourly basis to bring you the latest nuclear news.

Manage all your data in a single browser-based system

The web applications are browser and operating system independent and can be accessed with Internet Explorer, Mozilla-based browsers (Mozilla, Firefox, Netscape) and a variety of other browsers such as Opera, Safari, etc.

Provides the opportunity to introduce and share your expertise

with the NucleonicaWiki – a collaborative authoring tool in nuclear science

Need to prepare a lecture or a training course?

NUCLEONICA is an ideal source of information, articles, weblinks, graphics, tables etc. Nucleonica will assist you in preparing training courses by providing an e-learning platform for education and training in the nuclear sciences.

About the Nucleonica Training Course

The course introduces the basic concepts of nuclear science and technology and is suitable for participants from the nuclear industry, nuclear research organizations, universities, regulatory authorities and nuclear medicine institutes.

What makes this course unique is the emphasis on interactive and hands-on learning through the use of Nucleonica - a suite of powerful and versatile web-based applications for calculations on radio-nuclides and their radiation. With examples, exercises and dedicated case studies, a whole variety of core and topical issues in nuclear science and technology will be presented by experts in their respective fields.

The course will be held in English.

How you will benefit from this course

In this course you will:

- Consult with experts in the field
- Develop a thorough understanding of the basic nuclear concepts
- Obtain an overview of the multi-disciplinary nature of nuclear science ranging from fundamental research to industrial applications.
- Receive a fundamental training in the field of Radiation Protection
- Receive direct hands-on experience with the NUCLEONICA web-based applications

Programme and Topics

Core Topics

- Basic Concepts in Nuclear Science (History of nuclear science, radioactive decay, nuclear reactions, nuclide charts)
- Nuclear Data (atomic masses, decay data, cross sections, fission yields, etc.)
- Interaction of Radiation with Matter / Radiation Protection (biological effects of ionising radiation; radiation hormesis & LNT model; etc.)
- Range and Stopping Power of charged particles in matter
- Case Studies with NUCLEONICA

Special Topics

- Nuclear Forensics and Illicit Trafficking
- Essentials of Gamma Spectroscopy
- Introductory neutron and photon dosimetry and shielding (Monte Carlo)

Date and Place

The **10th Nuclear Science training course** on Radioactivity, Radionuclides and Radiation with Nucleonica will take place in Çeşme (near Izmir), Turkey, from the **8th to 10th October 2008**.

The training course is jointly organized by:

European Commission, JRC/ITU Germany

and

Ege University, Institute of Nuclear Science, Izmir, Turkey.

Application

Further information on the course fees can be obtained from the course secretary Ms Deiß. If you are interested in taking part in this course, please contact the secretary as soon as possible. Ms Deiß will be pleased to answer to your questions.
email: birgit.deiss@ext.ec.europa.eu.

The application form can be downloaded from the training course webpage at:
http://www.nucleonica.net:81/wiki/index.php/Help:Training_Course_Announcements

Applications can be accepted until end of August 2008.
Please be aware: first come, first serve.

Participants from Candidate Countries, Potential Candidate Countries, and European Neighbourhood Partner Countries

As part of its "Enlargement and Associated Initiatives" activity, the European Commission will sponsor participants from Candidate Countries (Turkey, Croatia, the former Republic of Macedonia), Potential Candidate Countries (Serbia, Montenegro, Albania and Bosnia-Herzegovina) as well as European Neighbourhood Partner (ENP) Countries. The ENP covers Algeria, Armenia, Azerbaijan, Belarus, Egypt, Georgia, Israel, Jordan, Lebanon, Libya, Republic of Moldova, Morocco, the Palestinian Authority, Syria, Tunisia and Ukraine.

For such participants there is a budget available to cover travel and hotel costs. Further details can be obtained from the course secretary.



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